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ABSTRACT

History and the social sciences can be defined as recorded narratives or stories about the past or present that describe change and continuity over time and seek to explain this change and continuity through a series of cause and effect propositions based on evidence and shaped by the scholar's social frame of reference. In social studies there are several basic interrelated components of critical study involved in the construction and use of knowledge. At the most fundamental level of study, students conceptualize the people, setting, story, or context of the inquiry with which they are concerned. The second level of study deals with causality. Once students comprehend the setting of the inquiry, they must then inquire as to how and why the setting acquired its characteristics. At the third level, students inquire into the accuracy or validity of the explanations suggested at level two. The fourth and final level is concerned with creative extensions, that is, students' creative inquiry into new settings and issues. If students can be motivated and instructed to move comfortably through these four levels, they will have a better chance to develop higher order thinking abilities primarily because of the opportunity to study the nature of a discipline from several different perspectives. This experience should also enhance students' reasoning and thinking abilities as they encounter new disciplines, topics, problems, or issues. There are skills that can be taught within these four levels of inquiry, but a focus on skills per se may detract from the goal of developing social inquiry and higher order thinking. A 20-item bibliography is included. (JB)

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SOCIAL CONTENT and HIGHER ORDER THINKING

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SOCIAL CONTENT and HIGHER ORDER THINKING

Michael Hartoonian

Students and scholars usually think about social studies content in two different but interrelated ways. First, social studies is viewed as a story about continuity and change over time . . . an exciting narrative or analytical study about people, events, and issues (Danto, 1965). Second, it is understood as a disciplined study or inquiry involving the creation, structuring, and use of knowledge (Bragaw and Hartoonian, 1988). Thus, social studies is both an artful narrative and a set of assumptions, concepts, explanations, and biases that reflect the attitudes and craft of the community of scholars constructing social knowledge, including students and teachers. A closer look at the social studies disciplines (history, geography, the social/behavioral sciences, and, in some cases, the humanities) reveals that they are constructed on concepts such as narrative, change, continuity, chronology, cause/effect relationships, evidence, and frame of reference. In other words, history and the social sciences can be defined as recorded narratives or stories about the past or present which describe change and continuity over time and seek to explain this change and continuity through a series of cause and effect propositions based on evidence and shaped by the scholar's social frame of reference. Like all students and citizens, perhaps social scholars attempt to find out not only what happened but why it happened, what trends can be suggested, and how humans behave in certain social settings and why. Some of the most important questions which they consider include:

* How can a topic, issue, theme, or event best be conceptualized?
* What defines a historical period? What defines a theme? What defines an issue?
* What constitutes primary and secondary evidence? How can such evidence be evaluated and used?
* How are cause and effect relationships handled in a narrative or discourse?

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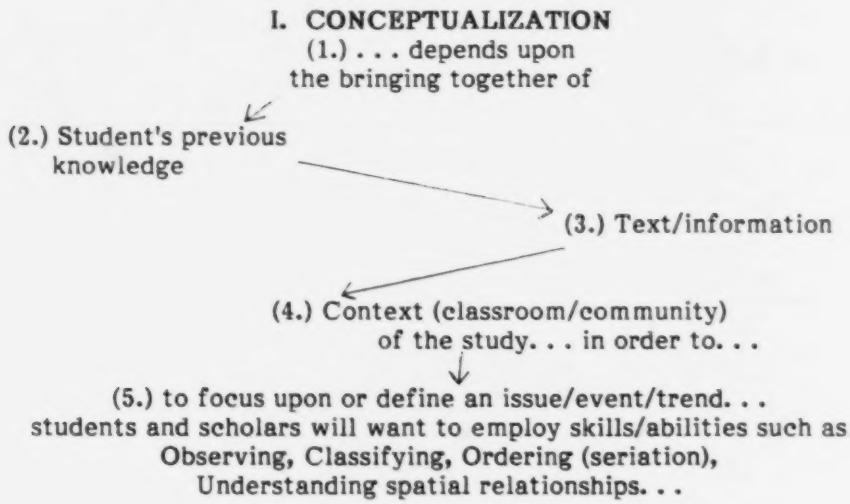
Some questions considered by social scholars in assessing the merits of explanations include:

* Is the logic of the explanation valid?
* What biases or points of view seem to drive the narrative?
* How well does the scholar place the story or study in temporal and spatial frameworks?
* How well does the scholar explain the complexities of causal relationships within the given explanations?
* How effectively is evidence presented to support interpretations?

The dynamic use of these questions and the concepts they embrace are fundamental to the way in which social inquiry is conducted. That is, the way in which we think about and with social knowledge is directly related to the concepts and questions we use, and their relationship to one another. In social studies, as in most other fields of inquiry, there are several basic interrelated components of critical study involved in the construction and use of knowledge. They constitute the necessary elements in thinking about personal and social questions, and present a model for higher order or reflective thinking. These components are identified here as (1) comprehension or conceptualization, (2) causality, (3) validity of explanation, and (4) creative extension. Let's look at these components one at a time.

At the first or most fundamental level of study, students conceptualize the people, setting, story, or context of the inquiry with which they are concerned. This means that they develop a story, definition, model, picture, or description of a concept, theme, or other category of study that separates it from other areas of study. At this level, the following questions are asked: What is going on? How have things changed? And, how have they remained the same? These kinds of questions help define the temporal and spatial context necessary for comprehension of the issue, problem, topic, or theme under study. Comprehension depends upon the understanding and skills that students bring to

the inquiry, that is, their basic factual knowledge of major social or historical movements and cultures, and their knowledge of the content and methods of the social studies disciplines. As part of the process of comprehension, students must also understand data in textual, visual, and quantitative form; to relate new contexts to previously learned data; and to identify problems or issues. A process of conceptualization might look like the following:


I. CONCEPTUALIZATION
(1.) . . . depends upon
the bringing together of
(2.) Student's previous knowledge
(3.) Text/information
(4.) Context (classroom/community)
of the study. . . in order to. . .
(5.) to focus upon or define an issue/event/trend. . .
students and scholars will want to employ skills/abilities such as
Observing, Classifying, Ordering (seriation),
Understanding spatial relationships. . .

For example, in the study of communities at the third grade, students might think of "community" as a mobile hanging from their classroom ceiling. A mobile is a system. The community can be seen as basically a system which tries to maintain a sense of balance. Homes, stores, factories, schools, libraries, etc., are represented in the mobile by cardboard, paper, or wood models designed by students with help, if available, from the Arts Specialist. Individuals or small groups can be arranged to work on various parts (a small mock-up version can be built before the classroom model is constructed). The pieces of string which hold the model together can represent street, telephone lines, and even TV and radio signals. The string can even be seen as law(s) that hold a community together.

The mobile can be a model of the local community, and students can collect data on the numbers of households, factories, stores, etc., and have one "house," for example, in the mobile represent "X" number of houses in the community. Once all the pieces of the mobile are constructed, the students can string the pieces together to form their mobile. After they have it up and balanced, a number of inquiries can be made relative to helping them conceptualize "community." For example:

* How many houses are there in your mobile community?
* How many factories are there?
* Why are there more houses than factories?
* What would happen to the mobile community (balance) if we removed one factory?
* What can we do to bring it back into balance?
* How does the number of schools, parks, museums, zoos, and swimming pools compare with the number of houses?
* How important to the balance of the mobile is the placement of the string and other support structures, i.e., wires, hooks, etc.?
* Can you draw a map of the mobile community?
* How does the map compare with a "regular" map of a community?

These, as well as other questions, will occur as students observe and analyze their creation. The data they collect will also serve as a good "connector" between the classroom mobile and the outside community and between the classroom mobile and descriptions of community in the textbook. If the mobile is built early in the school year, it can serve as a reference point all year long. And, as communities from other parts of the world are studied, other mobiles can be constructed to show how they are different from our own communities but <u>still in balance</u>. Students might even see how communities

change over time. It is through such activities that students can conceptualize important ideas in the social studies.

Through activities like this, students can also develop important skills. Such skills as observing, classifying, formulating questions and hypotheses, and formulation models of reality will be practiced quite often. Further, students will have an opportunity to enhance their communication skills by working together on the model, describing it in words and pictures, and in explaining data in many different forms. These skills and abilities are all important in helping students become better at conceptualizing and comprehending their social world.

The second level of study deals with causality. Once students comprehend the setting of the inquiry, they must then inquire as to how and why the setting acquired its characteristics. Their inquiry should be pursued so that they can see cause and effect relationships and the logic used in their own explanations of social and historical developments as well as in the explanations of others. They should also see how causality and correlation differ. That is, student should be able to deal with the idea that a proposition or event that is incidentally related to another proposition or event does not mean one caused the other, only that they have a mutual relationship. The fact that ice cream sales increase in the hot weather of summer does not mean that ice cream sales cause the temperature to rise. Specifically, students must use skills of analysis to help them gain some understanding of how to approach the problem of change over time and to recognize and explain major events, trends, or issues. It should be clear, however, that claiming causality and correlation relationships are difficult to establish in social studies.

CAUSALITY

(1.) . . . depends upon developing
cause and effect relationships (as well as noting correlations)
such that
(2.) if "P" happens, then "Q" will happen. . .
or
(3.) if "P" happens, then "Q", "R", "S", etc. may happen. . .
or
(4.) if "Q" happened, then how did "P" relate to "Q"
in any direct or indirect way?
etc.
Skills/abilities which need to be employed include:
Inferring, Measuring, Formulating questions/hypotheses,
Predicting, Formulating definitions, Testing hypotheses,
Formulating models. . .

At the third level, students inquire into the accuracy or validity of the explanations suggested at level two. Here they investigate bias, the nature of evidence, and the methods of evaluation used to validate explanations. To do this, students must have some familiarity with the techniques of quantitative and non-quantitative analysis as well as the ability to deal with diverse interpretations of data and to think critically about conflicting interpretations. (Bulletin No. 83, NCSS, 1989)

VALIDITY OF EXPLANATIONS

(1.) . . . depends upon gathering, organizing, and evaluating
information so that any causal claim or
statement about an event, person, issue, or
trend can be judged by degrees

of

(2.) accuracy

(3.) completeness

(4.)bias

(5.) ideology

Skills/abilities which need to be employed include:
Evaluating information, Judging bias, Evaluating
hypotheses, Researching an issue, Presenting
data to others. . .

Finally, the fourth level of study is concerned with creative extensions; that is, students' creative inquiry into new settings and issues. Creativity and independent study abilities/skills are paramount at this level as students seek to combine insight and experience with logic to gain new knowledge. Here students begin to develop their own interpretations by seeing the connection between different historical or contemporary events and probing issues of multiple causation and outcome. They also expand their use of knowledge by linking the past with the present and exploring the historical developments underlying present conditions. In sum, this fourth level interrelates with all other levels, thus creating the dynamics of what we understand as the conduct of inquiry and the nature of critical discourse.

CREATIVE EXTENSIONS
(1.) . . . depends upon the student's ability and
(2.) the classroom setting (teacher's willingness
to let students practice creativity) to bring
a new story, issue, solution, or
explanation to light. These ideas belong
to the student, they are new to the student,
and they are or will be shared with members
of the class and others.

Abilities/skills which need to be employed include:
Using imagery to generate problem solutions,
Using metaphors, Creating new endings to
dramas, Envisioning an "ideal". . .

Let us now consider more closely the instructional questions and skills/abilities involved in each of the four components of the conceptual model just described. As we do so, it should be noted that the components and their related skills should not be seen as mutually exclusive, but should be understood as a total system where one element of the model is related to all other elements.

CONCEPTUAL MODEL

Comprehension/conceptualization

* What is happening?
* What is the temporal and spatial setting?
* What ideas can I bring to this study?
* How can I relate previously learned information to this new context?
* What are the issues and problems under study?
* How can I describe what is going on in the setting(s) under study?

The following is a sample of the skills/abilities involved in the process of comprehension/-conceptualization:

* Identifying main ideas and supporting details
* Understanding information presented in a variety of forms
* Identifying similarities and differences
* Identifying issues and problems

Causality/correlation

* What cause and effect relationships can be discerned?
* What events are corollaries?
* What is the logic of the arguments used to explain developments?
* How can I explain or interpret what has happened?

The following is a sample of the skills/abilities needed for understanding causality:

* Sequencing events or processes according to time, distance, quality, number, or function
* Formulating and testing hypotheses
* Drawing inferences

Validity of Explanation

* What is the nature of the available evidence?
* How can the evidence be evaluated for accuracy and completeness?
* How can bias in the explanation be recognized?

The following is a sample of the skills/abilities needed to assess validity of explanation:

* Judging the reliability of both primary and secondary sources
* Recognizing different points of view and detecting bias
* Evaluating hypotheses and generalizations
* Drawing conclusions (however tentative)

Creative Extension

* What new interpretations can be created to explain the historical events under study?
* What knowledge (from other disciplines as well as the disciplines of the social studies) is needed for the new explanation?
* What different kinds of data presentations can be used in establishing a new explanation?
* What are some results of this event? How did these results influence the course of other events?
* How through causation, continuity, contrast, generalization, or analogy do the events under study relate to the present?

The following is a sample of the skills/abilities necessary for creative extension:

* Generating new ideas and models
* Relating information in one area to larger historical or contemporary developments
* Comparing and contrasting information under study with related historical events and/or trends

Again, it should be noted that neither the four components of study (comprehension/ conceptualization, causality, validity of explanation, and creative extension) nor their related skills/abilities are mutually exclusive. The components do, however, suggest activities in which students should be engaged if they are to understand social inquiry. The activities are crucial for equipping students with the ability to communicate (listen, speak, discuss, and write) not only about interesting historical and contemporary social issues but also about the quality and accuracy of social inquiry itself.

The Context of Instruction and Social Inquiry

Operationally, and as an example, let us look at the relationship between reasoning or higher order thinking and content within the environment (setting) of a high school history class. While the following example addresses the teaching of history, it has application in any social studies class. What is critical to all areas of study and thinking is the ability to comprehend or conceptualize, deal with correlations and causality, explore validity or truth claims, and create extensions to new settings or disciplines within a learning environment that nurtures inquiry. As John Dewey stated in 1916, "The development

within the young of the attitudes and dispositions necessary to the continuous and progressive life of a society cannot take place by direct conveyance of belief, emotions, and knowledge. It takes place through the intermediary of the environment. The environment consists of the sum total of conditions which are concerned in the execution of the activity characteristics of a living being."

Consider a lesson about the Great Depression of the 1930s. This might be a lesson within a U.S. History course at the tenth or eleventh grade. One of the first things that usually occurs in such a course is that level one conceptualization/comprehension teaching takes place. That is, the instructor wants students to know the setting, story, and context of the topic under study. What is going on here? How is this different and/or similar to previously studied periods? In other words, the instructor wants students to conceptualize the theme, topic, or concept in terms of time, place and circumstance. From this point teacher and students move to the second level. At level two consideration is given to causality. Can we explain why the depression occurred? What were the causes and consequences of the depression? At level three the teacher and students investigate the truth or validity of the claims made by historians, economists, journalists, politicians, and family members, as to why the depression occurred as well as explanations for its aftermath. The nature of the evidence for each claim is evaluated and the bias of each authority is made explicit. At the fourth level students are encouraged to create their own questions, interpretation, story, or explanation and to apply or deal with potential extensions between the studied depression and other fluctuations in the business cycle before and after the 1930s.

Now consider a fourth grade unit on Human Needs. This unit was developed by teachers in Grand Junction, Colorado in July 1989.

HUMAN NEEDS

Grade 4

(one week)

LEVEL I: (conceptualization)

1. What are needs?
2. What is the difference between needs and wants?
3. Are all peoples' needs the same?
4. How have human needs changed over time?

Activity: Make a list of human needs and order them from most important to least important.

Activity: Add human wants to the previous list of needs. Using a Venn diagram, classify needs, wants, and others which overlap.

Activity: Make a collage of needs and wants from the above Venn diagram.

LEVEL II: (causality/correlation)

1. How do people meet their needs?
2. How have people changed their institutions to meet human needs?

Activity: Given statistics on numbers of working women in 1960 and 1989, students brainstorm in cooperative groups stating reasons for institutional change and the effects of these changes.

Activity: Brainstorm in cooperative groups what the family will be like when the students are adults.

LEVEL III: (validity)

1. How can we find out what others think their needs are; locally and statewide?
2. Do men and women have different needs?

Activity: Conduct a poll of the student population, parent population, neighborhood population, and/or another fourth grade class. As each group to generate a prioritized list of each person's top ten needs. Graph the results.

LEVEL IV: (creative extension)

Activity: Write a story describing the world where one of the human needs studied no longer exists. What does the world look like under these circumstances?

It should be clear that if students can be motivated and instructed to move comfortably (within an environment that values inquiry) through these four levels, they will have a better chance to develop higher order thinking abilities primarily because of the opportunity to study the nature of a discipline from several different vantage points. This experience should also enhance students' reasoning and thinking abilities as they encounter new disciplines, topics, problems, or issues.

Activities which help students conceptualize, deal with causality and correlations, validate various claims, and pursue an independent and creative course of action should help enlighten individual and group behavior. Within the classroom, students should have the opportunity to travel across all four categories of social inquiry. Activities within these areas will "force" students to do different things, ask different questions, and to engage different data and authorities. This does not suggest a sequence of activities, however. It does mean that the categories or levels of inquiry are interrelated, and while the order of presentation or involvement of students is arbitrary, all levels should be used and the scheme should be thought of as a system or network. All of this takes place, of course, within a context (class, school) that is in the process of becoming a better community where all members are respected, where there is a conscious effort to develop standards of ethics (justice) and aesthetics (craft, quality, excellence) and where the

development of meaning in the personal lives of its members is a top priority of instruction.

Social Inquiry and Skills

Finally, we should note the relationship between social inquiry and skills. We might ask - what skills should be taught within each of the four (comprehension, causality, validity, and creative extension) categories of the model? Are there skills that could be suggested to help us teach conceptualizing, developing strategies for detecting cause and effect relationships, and discerning the validity of truth claims? The answer is yes and no. There certainly are skills, but social inquiry and higher order thinking comes before, as well as after, "skill development" and a pedagogical focus on skills per se may detract from our goal of developing social inquiry and higher order thinking and actually hinder our effectiveness.

It might be useful to look at a metaphor that can help us see the unity of this proposition. Consider the sport of basketball, or the activity of flying an airplane, or any other skillful task in which people engage. A basketball player, for example, learns many different skills - shooting, passing, dribbling, pivoting, and so forth. Coaches spend many hours "drilling" these, often separate, skills "into" their players. But basketball, like any complex human activity, is a "mind game." The player has to reason through a series of decision options and make choices as accurately and as rapidly as possible. She is confronted with an infinite variety of problems to be solved, all within a particular context. Her ability as a player is measured not so much in her execution of skills, as it is in her ability to make appropriate decisions. The "game" players, as opposed to the "practice" player, is one who puts skills together in meaningful behaviors that help her improve skills, understand the subtleties of the game, and allow her the opportunity to become a better and more creative player.

Perhaps, the most that we can say about the development of social inquiry and higher order thinking is that if we intend for our students to be better thinkers, then it is important to have them in contact with those accustomed to thinking with exactness, refinement, and clarity, and by encouraging them to be copious readers of the best content (authors), writers of reflective essays, and critics of social phenomena. An awareness and utilization of the relationships among social studies content, higher order thinking and context (setting) can help us consider the quality of this intercourse, and that quality will be our best guide for developing reflective social inquiry. This inquiry, this disposition toward reflective thought is the essence of the democratic mind.

References

Bastick, T., 1982 Intuition: How we Think and Act. Chichester, England, John Wiley.

Bartlett, F., 1958 Thinking: An Experimental and Social Study. London, George Allen & Unwin.

Bragaw, D.H. and H.M. Hartoonian, 1988, "Social Studies: The Study of People in Society," in Content of the Curriculum, Ronald S. Brandt, editor, Alexandria, Virginia, Association for Supervision and Curriculum Development.

Chance, P.,1986, Thinking in the Classroom, New York Teachers College Press, Columbia University.

Danto, A. C., 1965, Analytical Philosophy of History, London, Cambridge University Press.

Dewey, J., 1916, Democracy and Education, New York, Macmillan.

Dewey, J., 1933, How We Think, Lexington, MA, D.C. Health.

Elliott, J. and Connolly, K., 1974, "Hierarchical structure in skill development." The Growth of Competence. In K. Connolly and J. Bruner (Eds.). London, Academic Press.

Glaser, R., 1984, "Education and Thinking: The Role of Knowledge," American Psychologist, Volume 39.

Hartoonian, H.M., 1980, "Reasoning As A Metaphor for Skill Development in the Social Studies Curriculum" in Theory and Research in Social Education, Volume VII, No. 4.

Hartoonian, H.M., 1980, "The First 'R' - Reasoning" in the Social Studies, Volume 71, No. 4.

Hirsch, E. D., Jr., 1983, "Cultural Literacy," in The American Scholar, Spring, Volume 52.

Kaplan, A., 1964, The Conduct of Inquiry, San Francisco, Chandler Publishing Company.

Laughlin, M.A., H.M. Hartoonian, and N.M. Sanders, Editors, 1989, From Information to Decision Making, Bulletin No. 83, Washington, D.C.: National Council for the Social Studies.

Mayer, R.E., 1977, Thinking and Problem Solving: An Introduction to Human Cognition and Learning, Glenview, IL, Scott, Foresman.

McPeck, J.E., 1981, Critical Thinking in Education, New York, St. Marten's Press.

O'Connor, D.J., and B. Carr, 1982, Introduction to the Theory of Knowledge, Minneapolis, University of Minnesota Press.

Reitman, W., 1985, Cognition and Thought, Wiley, New York.

Smith, F. 1975, Comprehension and Learning: A Conceptual Framework for Teachers, New York, Holt, Rhinehart and Winston.

Sternberg, R., 1982, "Components of human intelligence," Cognition, 15, I-48.

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